

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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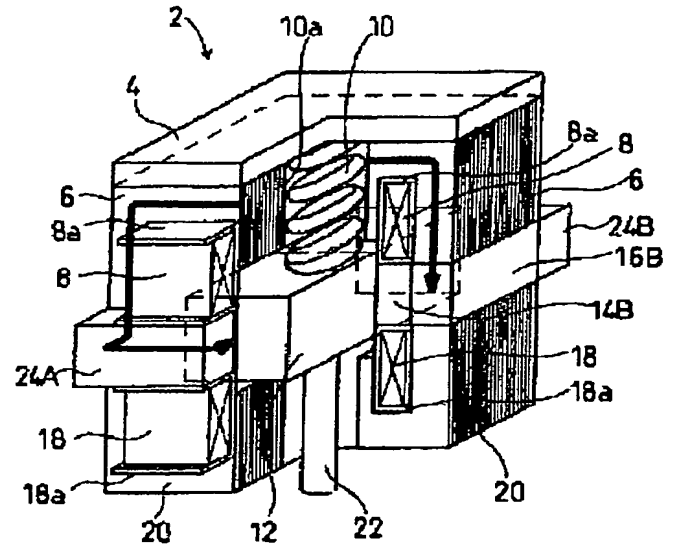
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APPLICANT : HITACHI METALS LTD;

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TITLE : ELECTROMAGNETIC ACTUATOR



ABSTRACT : PROBLEM TO BE SOLVED: To reduce power consumption by increasing electromagnetic efficiency.

SOLUTION: In an electromagnetic actuator 2, magnetic flux generated when current is caused to flow to the upper coil 8 cannot pass from intermediate cores (16A), 16B to the inside, as shown by a right side thick line in the figure, since there are permanent magnets (14A), 14B, in the side surfaces of the permanent magnets (14A), 14B. However, flux passes auxiliary cores 24A, 24B from the intermediate cores (16A), 16B, passes a moving element 12 which is near the internal surfaces of the auxiliary cores 24a, 24B, and makes a complete round. As the result of this, the length of the magnetic path is reduced to about a half, and electromagnetic efficiency is improved. Consequently, current necessary for obtaining specified attraction force can be made smaller, and power consumption is also reduced.

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